

Positive fixed points of quadratic operators and Gibbs measures

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Abstract

© 2016, Springer International Publishing. In this paper we consider a model with nearest-neighbor interactions and with the set $[0, 1]$ of spin values, on the Cayley tree of order two. Translational-invariant Gibbs measures for the model investigated by properties of positive fixed points of quadratic operators in the cone of R^2 . In the last section it is constructed kernels for the Hammerstien's integral operator, which there exists two and three positive fixed points.

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Keywords

Cayley tree, Configuration, Fixed point, Quadratic operator, Translational-invariant Gibbs measure